Quality of Life among Menopausal Women Residing in Dharan Sub-metropolitan City, Nepal

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Authors' contributions

This work was carried out in collaboration among all authors. Author AT designed the study, wrote the protocol, performed the statistical analysis, and wrote the first draft of the manuscript. Authors MS and NP managed the analyses of the study and supervised the data collection. Authors TB and KRT managed the literature searches and finalized the manuscript. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Introduction: Menopause poses a big challenge during middle age and to the healthy aging of woman. Majority of women face various problems and disturbances in daily living leading to decrease in quality of life.

Aims: This study aims to assess the quality of life in relation to the menopausal symptoms among menopausal women.

Study Design: Descriptive cross-sectional study

Place and Duration of Study: The study was conducted at seven randomly selected wards of Dharan Sub-metropolitan City of Nepal over a period of four weeks.

Methodology: Two hundred menopausal women (40-60 years old) residing in Dharan Sub metropolitan city were selected through purposive sampling technique. Semi-structured questionnaire was used for recording demographic variables and menopause specific quality of life (MENQOL) questionnaire were used to collect data regarding menopausal symptoms and quality of life. Interview technique was adapted. Descriptive and inferential statistics were used to interpret data.

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Results: Mean menopausal age of the study group was 47.14 years. The most common symptoms of vasomotor, psychosocial, physical and sexual domains were hot flushes, experiencing poor memory, feeling tired or worn out and change in sexual desire respectively. The overall score of menopausal quality of life for each domain reported that highest the mean score in sexual domain (3.58 ± 1.62) and least score in vasomotor domain (2.08 ± 1.67). The score of physical domains was significantly high in late postmenopausal group than early postmenopausal group. Significant association was obtained with age, ethnicity, menopause status, physical activity and marital status in relation to the domains of quality of life

Conclusion: All the menopausal women were having at least one menopausal symptom from each domain. The women scored highest in sexual domain and least in vasomotor domain suggesting decrease quality of life in relation to sexual domain. Menopausal symptoms were associated with decrease in quality of life in all domains.

1. INTRODUCTION

Menopause poses a big challenge during middle age and to the healthy aging of woman. It is a condition when there is permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity and clinically it is defined as a point in time that follows one year after last menstrual period [1]. The mean age of women experiencing menopause is 51 years, however, cessation of menses can occur at any period of life due to ovarian failure. Menopause before the age of 40 years is known as premature ovarian insufficiency occurs in around 1% of women [2]. For Nepalese women, the average age of menopause is 48.7 years [3]. With the advancement in healthcare services, the average life expectancy is also increasing. In lieu of this, most women live almost one third of their lives in menopause.

Quality of Life (QoL) is defined as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of the environment [4].

Even though, menopause is a universal reproductive phenomenon, it can be perceived as an unpleasant experience as it is associated with unavoidable manifestation of aging process in women. It involves a biopsychosocial process where a woman experiences various physiological changes. It not only marks the end of reproductive ability; but also associated with multiple physical, psychosocial, and sexual symptoms. The major consequences of menopause are due to estrogen deprivation. Main health concerns during this period include vasomotor symptoms, urogenital atrophy, osteoporosis, cardiovascular diseases, malignancies, decline in cognitive function and sexual problems [2]. These symptoms are further influenced by varieties of ethnic, psychological, social and cultural factors. Factors like lifestyle i.e. smoking, diet, exercise and reproductive history; socioeconomic status, body mass index, mood, climate and cognitions i.e. beliefs and attitudes towards menopause are associated with variations in reports of menopausal symptoms [5].

The physical, psychological, and social consequences of menopause affect the QoL of postmenopausal women. Thus, this study aims to assess the quality of life in relation to the menopausal symptoms among menopausal women.

2. MATERIALS AND METHODS

2.1 Study Design and Study sEtting

A descriptive cross-sectional study was conducted in Dharan Sub-metropolitan City. Dharan is a beautiful city of Eastern part of Nepal lies in the Sunsari district, Koshi zone. It is one of the major cities of Eastern Nepal with the area of 191.62 km^2 with the population of 137,705. The female population of the city is 73,034; 16.24% of them being in the age group 40-60 years [6].

2.2 Sample Size Calculation and Sampling Procedure

Sample size was estimated taking mean score and standard deviation of physical domain of

MENQoL (2.28±0.749) in a study by Hoda A. E. Mohamed [7] and using the formula $z^2\sigma^2/l^2$. Taking 95% confidence interval and 5% permissible error and considering 20% attrition, the estimated sample size was 200. Simple random sampling technique was used to select the seven wards out of 27 wards of Dharan Sub-metropolitan City. Then respondents were selected purposively from those seven selected wards. Data collection was done at community level.

2.3 Study Population

Menopausal women of age group 40-60 years after cessation of menstruation at least for 1 year who were not using any hormonal therapy and consented to participate were selected for the study. The women who were under hormone replacement therapy, who had had hysterectomy with bilateral salphingo-oophorectomy and those who had chronic medical or psychiatric disorders were excluded from the study.

2.4 Data Collection Tool

The Menopause Specific Quality of Life (MENQOL) questionnaire was used to identify the menopause specific symptoms and quality of life. It is a standard tool used to assess the presence and severity of the symptoms and the degree to which they adversely affect women's life designed by Hilditch JR, Lewis J. It consists of 29 items related to vasomotor (Q1-3= 3), psychosocial (Q4-10= 7), physical (Q11-26= 19) and sexual domain (Q27-29= 3). The systematic scoring for each of the four domains of MENQOL is identical. For each of the 29 items, this scale ranged from 0 to 6 indicating how bothered she had been by the symptoms on a seven point scale ranging from 0 = not at all bothered to 6 extremely bothered. As the score increases, quality of life decreases. For the severity of the symptoms, score of 2-4 considered as mild, 5-6 as moderate and 7-8 as severe. It is reliable and valid tool with Cronbach's alpha values for all subscales were between 0.82-0.89 and used worldwide [8]. The questionnaire was used after translating into Nepali language. Pretest was done for the questionnaire in Nepali language among 20% of the sample size in similar setting of data collection. The Nepali version was finalized after the result of pretest and consultation with experts. The women included in pretest were not included for final analysis. For recording socio-demographic variables semi structured questionnaire designed by the researcher was used.

2.5 Data Collection

Data were collected over four weeks of duration after obtaining permission from the Social Development office of Dharan Sub-metropolitan City and ethical approval from Institutional Review Committee (IRC), BPKIHS (IRC/407/014). The purpose of the study was explained to each participant and then informed consent was obtained. For those who were illiterate informed consent was obtained from their legal guardian after explaining the study purpose. Two hundred women from the selected wards of the city, meeting the inclusion criteria, were interviewed after obtaining informed consent. Women were interviewed at their own residence in a private room by the principle investigator. Participants were informed that they have full right to withdraw from participation at any time of interview. The socio-demographic variables including age, ethnicity, religion, marital status, educational level, occupation, family income, number of children living together were recorded in the questionnaire. Similarly, lifestyle variables like physical activity smoking or alcohol intake were also noted. Details about menopause including age at menopause, duration since menopause as well as menopausal symptoms as per MENQOL questionnaire were recorded. The average time required to complete the questionnaire was about half an hour.

2.6 Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. Descriptive statistics applied and the continuous data were presented as frequencies, mean or median and standard deviation while categorical data were presented as frequency, percentage, inter quartile range. Inferential analysis was used to find out the association between the selected variables and domains of quality of life. The mean scores of each domain of MENQOL between different demographic, reproductive and lifestyle variables were compared with the help of Kruskal-Wallis H and Mann-Whitney U test. The level of significance was at $P<0.05$.

3. RESULTS

Total 200 menopausal women were included in the study. The mean age of the women was 53.50 ± 4.590 years and majority was above 50 years. Other socio-demographic variables are presented in Table 1.

Table 1. Socio-Demographic and Reproductive Characteristics of Participants

Characteristics	Mean±SD/ N(%)/ Median (IQR)
Ethnicity	
Dalit	40 (20.0)
Disadvantaged janajati	97(48.5)
Disadvantaged non-dalit terai caste	5(2.5)
Relatively advantaged janajati	28 (14.0)
Upper Caste	30 (15.0)
Type of family	
Nuclear	87 (43.5)
Joint	113 (56.5)
Religion	
Hindu	145 (72.5)
Boudha	17(8.5)
Christian	28(14.0)
Kirat	10 (5.0)
Marital status	
Married	146 (73.0)
Unmarried	2 (1.0)
Divorced	2 (1.0)
Widow	44 (22.0)
Separated	6 (3.0)
Education	
Illiterate	132 (66.0)
Can Read and write	38 (19.0)
Primary	5 (2.5)
Secondary	18 (9.0)
Higher secondary	7 (3.5)
Occupation	
Housewife	126 (63.0)
Business	26 (13.0)
Labour	25 (12.5)
Agriculture	15 (7.5)
Others	8 (4.0)
Monthly family income (Rupees)[*]	15000(10000-20000)
Below poverty line	117 (58.5)
Above poverty line	83 (41.5)
Reproductive Characteristics	
Age at menopause (years)	47.14±4.38
Duration since menopause[*] **(years)**	5 (2-10)
Sexual habit	
Sexually active	146 (73.0)
Sexually not active	54 (27.0)

[*] Median and IQR

The vasomotor symptoms were found in 47.5%, psychosocial symptoms in 97.5%, and physical symptoms in 100% of the respondents. Sexual symptoms were found in 94.0% among those who were sexually active. The presence of menopausal symptoms as per MENQOL questionnaire as well as mean score of each domain of the questionnaire is presented in Table 2.

The highest mean scores of symptoms in vasomotor, psychosocial, physical and sexual domains were hot flushes (2.15±2.00), accomplishing less than used to (3.88±2.08), aching in muscles and joints (4.56±2.42) and change in sexual desire (4.11±2.42) signifying aching in muscles and joints as a major factor leading to decrease in quality of life. The highest mean score in sexual domain (3.58±1.62) followed by physical domain (3.06 ±1.03), psychosocial (2.72 ± 1.16) and finally vasomotor (2.08 ± 1.67) respectively. The association of various reproductive and lifestyle characteristics with the mean score of four domains of MENQOL questionnaire is presented in Table 3.

Increasing age, longer duration since menopause, not staying with partner and not being engaged in any form of physical score were significantly associated with higher mean scores.

4. DISCUSSION

This community based cross sectional study showed high prevalence of severity of symptoms in menopausal women suggesting reduced quality of life. The menopausal symptoms are prevalent in our society as evidenced by the fact that all of the respondents have at least one of the menopausal symptoms. The most prevalent symptom among the respondents was change in sexual desire (92.0%) and the least frequent symptom was increase of facial hair (6.0%).

High prevalence of menopausal symptoms was also reported by the other studies from Nepal [9,10]. The most common symptoms reported were from physical symptoms domain, present in all of the participants while the vasomotor symptoms were present in 47.5% of respondents with sweating and hot flushes as common symptoms. The reason behind this may be the lack of awareness regarding the vasomotor symptoms. This finding is supported by many of the studies done in different settings [9,11]. Most of the women in Nepal still do not talk openly about their sexual problems. Despite this fact, 94% of women who were sexually active reported at least one of the sexual symptoms. However, 27% of the study population was not sexually active which can also signify the impairment in sexual life of those women. The finding contradicts with the result of study conducted at Kaski, Nepal [9].

Table 2. Presence of menopausal symptoms and mean score of each domain

Domain	MENQOL items *	Number (%)	Mean Score ± SD
Vasomotor	Hot flushes	62 (31.0)	2.08 ± 1.67
	Night sweats	51(25.5)	
	Sweating	64 (32.0)	
Psychosocial	Being dissatisfied with personal life	77 (38.5)	
	Feeling anxious or nervous	109 (54.5)	
	Experiencing poor memory	168 (84.0)	2.72 ± 1.16
	Accomplishing less than used to	165 (82.5)	
	Feeling depressed down or bored	100 (50.0)	
	Being impatient with other people	46 (23.0)	
	Feelings of wanting to be alone	41 (20.5)	
Physical	Gas pain/ flatulence	91 (45.5)	
	Aching in muscles and joints	159 (79.5)	
	Feeling tired or worn out	181 (90.5)	
	Difficulty sleeping	86 (43.0)	
	Aches in back of neck and head	103 (51.5)	
	Decrease in physical strength	179 (89.5)	
	Decrease in stamina	145 (72.5)	
	Feeling lack of energy	179 (89.5)	
Physical	Drying of skin	123 (61.5)	
	Weight gain	79 (39.5)	3.06 ± 1.03
	Increased facial hair	12 (6.0)	
	Changes in appearance, texture or tone of your skin	147 (73.5)	
	Feeling bloated	65 (32.5)	
	Low backache	144 (72.0)	
	Involuntary urination when laughing or coughing	73 (36.5)	
Sexual (n=146)	Change in sexual desire	134 (92.0)	
	Vaginal dryness during intercourse	117 (80.0)	3.58 ± 1.62
	Avoiding intimacy	40 (20.0)	

Table 3. Comparison of mean scores of domains of MENQOL according to reproductive and lifestyle characteristics

Characteristics	Mean Score ± SD							
	Vasomotor	*P*-value	Psychosocial	*P*-value	Physical	*P*-value	Sexual	*P*- value
Age*								
≤55 years	2.06 ± 1.63	.87	2.62 ± 1.12	.13	2.91 ± 0.92	.04	3.58 ± 1.67	.81
> 55 years	2.12 ± 1.73		2.89 ± 1.22		3.28 ± 1.14		3.61 ± 1.55	
Marital status*								
Single	2.12 ± 1.70	.72	3.08 ± 1.28	**.01**	3.19 ± 1.16	.57	-	-
Living with partner	2.07 ± 1.67		2.59 ± 1.09		3.01 ± 0.97		3.59 ± 1.62	
Age at menopause#								
< 40 years	1.70 ± 1.50	.18	2.82 ± 1.32	.95	3.33 ± 0.92	.23	3.74 ± 1.35	.86
40-55 years	2.10 ± 1.65		2.72 ± 1.15		3.01 ± 1.02		3.57 ± 1.66	
>55 years	3.50 ± 2.74		2.50 ± 1.19		3.67 ± 1.53		3.55 ± 1.83	
Duration since menopause*								
1-5 years	2.08 ± 1.69	.77	2.69 ± 1.20	.60	2.93 ± 1.05	.04	3.55 ± 1.69	.68
>5 years	2.09 ± 1.65		2.76 ± 1.13		3.19 ± 0.99		3.63 ± 1.55	
Lifestyle Characteristics								
Physical Exercise*								
Yes	2.07 ± 1.68	.77	2.65 ± 1.06	.44	2.92 ± 0.98	.04	3.53 ± 1.71	.59
No	2.10 ± 1.65		2.83 ± 1.29		3.24 ± 1.07		3.65 ± 1.52	
Smoking*								
Yes	2.08 ± 1.66	.98	2.77 ± 1.22	.31	2.97 ± 0.96	.45	3.76 ± 1.58	.34
No	2.09 ± 1.67		2.71 ± 1.14		3.10 ± 1.06		3.50 ± 1.64	
Alcohol intake*								
Yes	1.94 ± 1.51	.41	2.67 ± 1.13	.58	2.96 ± 1.01	.23	3.53 ± 1.51	.85
No	2.17 ± 1.75		2.76 ± 1.19		3.11 ± 1.03		3.62 ± 1.69	

* Mann-Whitney Test, # Kruskal-Wallis Test

The overall scores of menopausal quality of life for each MENQOL Domain was observed that the highest mean score in sexual followed by physical domain then psychosocial and finally vasomotor which is suggestive of low quality of life with respect to sexual domain. In accordance with this result, the study by Mohamed et al reported highest mean score in sexual domain [7]. However, a similar study conducted in western Nepal found that the most affected domain was physical and the least affected was vasomotor domain [9].

The mean age of onset of menopause in the study was 47.14±4.38 years which falls under the normal range of women attaining menopause worldwide as well as the average age reported for Nepalese women [3,9]. The mean age was found to be consistent with the other studies done in Iran by Kalarhoudi et al and Marahatta [12,3]. The age of menopause was however lower than 51.1 years, the median age for Asian women reported from a study conducted in seven Asian countries [14].

Investigators tried to find out the difference in the mean scores of domains of MENQOL with reproductive and lifestyle characteristics. The studied reproductive and lifestyle characteristics did not have difference with MENQOL scores in vasomotor domain. In contrary to this finding study conducted by Koirala and colleagues at Kaski, showed difference in mean score of vasomotor domain with physical activity [9]. Furthermore, Women with age more than 55 years had significantly higher mean MENQOL score in physical domain, while in other domains; the scores were comparable in women less than 55 years and in women older than 55 years. This is in contrast to the findings by Williams and colleagues who reported that women aged more than 60 years had lower scores indicating better quality of life [15]. Most of the women in our study were involved in occupations demanding physical fitness which might be the reason that increasing age was associated with lower quality of life.

The women who were single had significantly higher score in psychosocial domain as compared to those living with partner which is consistent with the finding of a study conducted at Hamadan, Iran [16]. The reason behind such result could be single women are vulnerable in terms of feelings and psychological support that they receive from their partner so there is

higher possibility for them to feel low. However, Kalahroudi et al reported no any significant relationship between marital status and all other domains [13].

Even though the QoL scores were not associated with age of menopause, duration of menopause more than five years was associated with higher score in physical domain. Similarly, those women who perform any sort of physical exercise had lesser score as compared to those women who do not perform any form of physical exercise and the difference was significant in physical domain. The result is suggestive of that some sort of physical activities have positive effect towards improving women's mood or general well-being [9]. The positive effect of physical activity on quality of life in postmenopausal women was demonstrated in various studies [9,17,18]. In accordance to another study, women who did not smoke or consume alcohol had higher scores in physical domain compared to those who did not, but the result was not statistically significant [9].

5. CONCLUSION

Menopausal symptoms are common as women tend to have at least one menopausal symptoms. These symptoms have effect on overall quality of life in menopausal women with most effect evidenced in sexual domain. Increasing age, longer duration since menopause, living without partner, lack of physical activities were associated with lower quality of life. Understanding the modifiable factors responsible for lower quality of life will help in formulating health related programs to improve quality of life in postmenopausal women.

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CONSENT

All authors declare that the purpose of the study was explained to each participant and 'written

informed consent' was obtained from the participant. For those who were illiterate informed consent was obtained from their legal guardian after explaining the study purpose. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

ETHICAL APPROVAL

The study was approved by Institutional Review Committee (IRC) of B.P. Koirala Institute of Health Sciences (IRC/407/014). Informed written consent was obtained from those who were literate and for illiterate consent was obtained from their legal guardian.

ACKNOWLEDGEMENTS

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/83824